SPEC® CINT2006 Result

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NEC Corporation

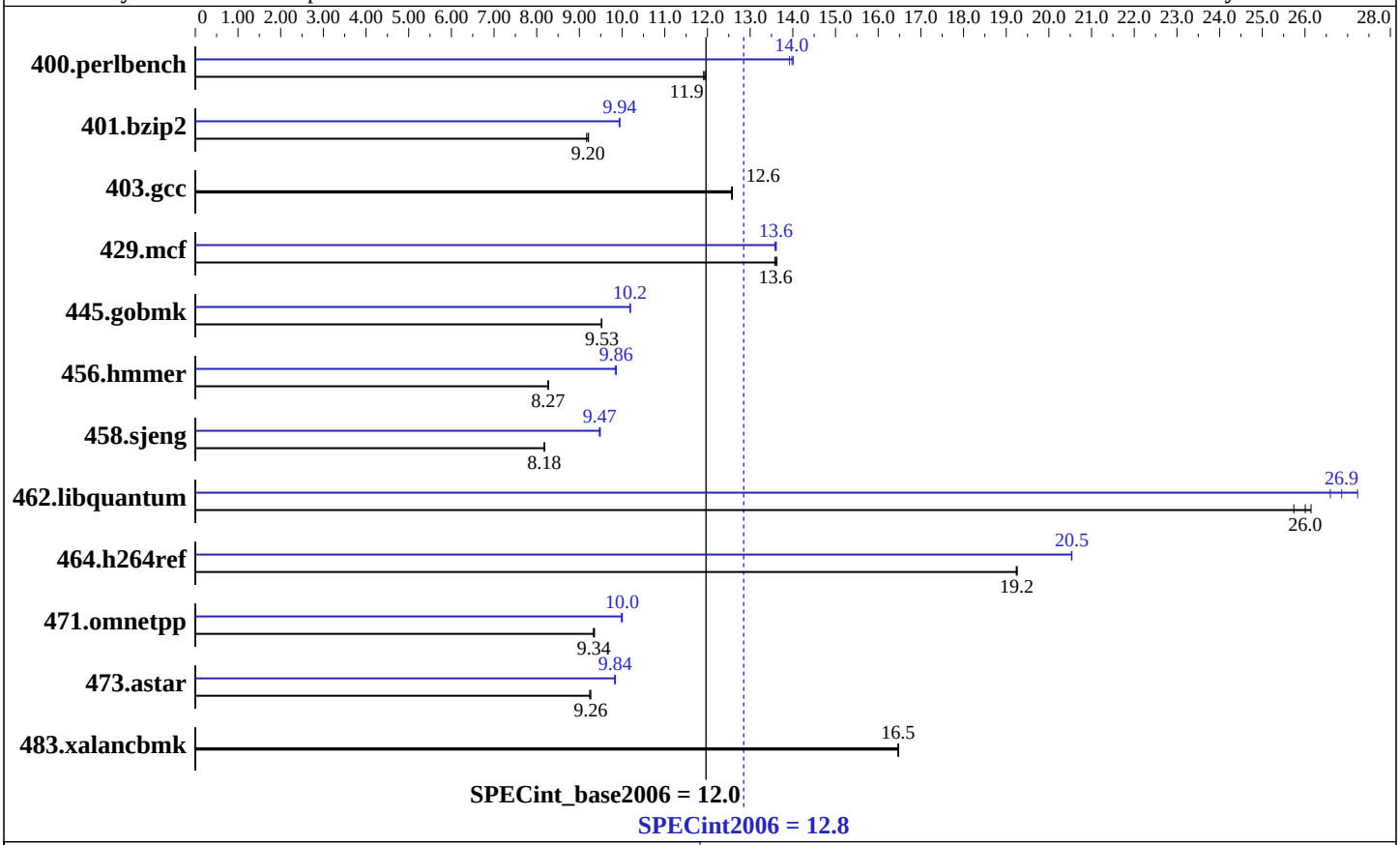
Express5800/140Re-4
(Intel Xeon processor 7140M)

SPECint®2006 = 12.8

SPECint_base2006 = 12.0

CPU2006 license: 9006
Test sponsor: NEC Corporation
Tested by: NEC Corporation

Test date: Sep-2007
Hardware Availability: Oct-2006
Software Availability: Jun-2007



Hardware

CPU Name:	Intel Xeon 7140M
CPU Characteristics:	3.40 GHz, 800MHz bus
CPU MHz:	3400
FPU:	Integrated
CPU(s) enabled:	8 cores, 4 chips, 2 cores/chip, 2 threads/core
CPU(s) orderable:	1,2,4 chips
Primary Cache:	12 K micro-ops I + 16 KB D on chip per core
Secondary Cache:	1 MB I+D on chip per core
L3 Cache:	16 MB I+D on chip per chip
Other Cache:	None
Memory:	32 GB (16x2 GB PC2-3200R, 2 rank, CL3-3-3, ECC)
Disk Subsystem:	1x146.5 GB SAS, 15000RPM
Other Hardware:	None

Software

Operating System:	64-Bit SUSE LINUX Enterprise Server 10, Kernel 2.6.16.21-0.8-smp for x86_64
Compiler:	Intel C++ Compiler for IA32/EM64T application, Version 10.0 - Build 20070426 Package ID: l_cc_p_10.0.023
Auto Parallel:	No
File System:	ext2
System State:	Multiuser, Runlevel 3
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	MicroQuill SmartHeap library 8.1

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	**820**	**11.9**	817	12.0	820	11.9	702	13.9	**699**	**14.0**	697	14.0
401.bzip2	1053	9.17	1047	9.21	**1049**	**9.20**	970	9.95	972	9.93	**970**	**9.94**
403.gcc	**640**	**12.6**	641	12.6	640	12.6	**640**	**12.6**	641	12.6	640	12.6
429.mcf	669	13.6	**671**	**13.6**	672	13.6	670	13.6	671	13.6	**670**	**13.6**
445.gobmk	**1101**	**9.53**	1103	9.51	1101	9.53	1030	10.2	**1029**	**10.2**	1029	10.2
456.hmmer	1127	8.28	1129	8.26	**1128**	**8.27**	**946**	**9.86**	948	9.84	946	9.86
458.sjeng	**1479**	**8.18**	1479	8.18	1480	8.18	**1277**	**9.47**	1278	9.47	1275	9.49
462.libquantum	793	26.1	805	25.7	**797**	**26.0**	**771**	**26.9**	779	26.6	761	27.2
464.h264ref	1149	19.3	1151	19.2	**1150**	**19.2**	1077	20.5	**1078**	**20.5**	1078	20.5
471.omnetpp	668	9.35	**669**	**9.34**	670	9.33	625	10.0	626	9.98	**625**	**10.0**
473.astar	758	9.26	760	9.24	**758**	**9.26**	715	9.82	713	9.85	**713**	**9.84**
483.xalancbmk	**419**	**16.5**	419	16.5	419	16.5	**419**	**16.5**	419	16.5	419	16.5

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

General Notes

All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer,
for peak, are compiled in 64-bit mode

The Express5800/140Hf and the Express5800/140Re-4 models are
electronically equivalent.
The results have been measured on a Express5800/140Re-4 model.

Base Compiler Invocation

C benchmarks:
icc -static(*)

C++ benchmarks:
icpc

(*) Indicates a compiler flag that was found in a non-compiler variable.

Base Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`
462.libquantum: `-DSPEC_CPU_LINUX`
483.xalancbmk: `-DSPEC_CPU_LINUX`

Base Optimization Flags

C benchmarks:
`-xP -ipo -O3 -no-prec-div`

C++ benchmarks:
`-xP -ipo -O3 -no-prec-div -Wl,-z,muldefs`
`-L/opt/SmartHeap_8.1/lib -lsmartheap`

Base Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

Peak Compiler Invocation

C benchmarks (except as noted below):
`icc -static`(*)

401.bzip2: `/opt/intel/cce/10.0.023/bin/icc`
`-L/opt/intel/cce/10.0.023/lib`
`-I/opt/intel/cce/10.0.023/include`

445.gobmk: `icc`

456.hmmer: `/opt/intel/cce/10.0.023/bin/icc`
`-L/opt/intel/cce/10.0.023/lib`
`-I/opt/intel/cce/10.0.023/include -static`(*)

C++ benchmarks:
`icpc`

(*) Indicates a compiler flag that was found in a non-compiler variable.

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3
-no-prec-div -ansi-alias -prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3
-no-prec-div

403.gcc: basepeak = yes

429.mcf: -xP -ipo -O3 -no-prec-div -prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xP -O2 -ipo
-no-prec_div -ansi-alias

456.hmmer: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3
-no-prec-div -unroll2 -ansi-alias

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3
-no-prec-div -unroll4

462.libquantum: Same as 458.sjeng

464.h264ref: Same as 456.hmmer

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xP -O3 -ipo
-no-prec_div -ansi-alias -Wl,-z,muldefs
-L/opt/SmartHeap_8.1/lib -lsmartheap

473.astar: Same as 471.omnetpp

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/NEC-ic10-ia32-intel64-linux-flags.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/NEC-ic10-ia32-intel64-linux-flags.xml`

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